

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



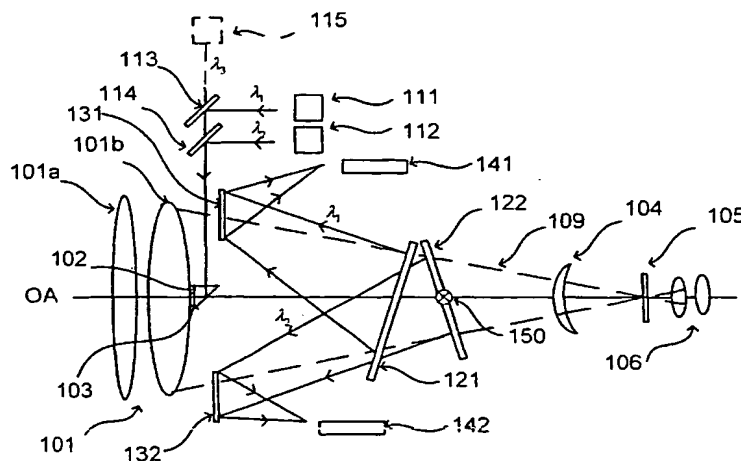
(43) International Publication Date  
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number  
**WO 2004/001333 A1**

- (51) International Patent Classification<sup>7</sup>: **G01C 3/06** (74) Agent: ALBIHNS STOCKHOLM AB; Box 5581, S-114 85 Stockholm (SE).
- (21) International Application Number: PCT/SE2003/001027 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 18 June 2003 (18.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0201882-8 19 June 2002 (19.06.2002) SE (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: MULTIPLE OPTICAL CHANNELS



(57) Abstract: The invention relates to an electronic distance measuring apparatus for surveying, e.g. for measuring the distance from the apparatus to an object. The apparatus comprises: a) an objective lens (101), defining an optical axis (OA), b) at least two sources (111, 112) of structured light for transmitting beams ( $\lambda_1$ ,  $\lambda_2$ ) of separate wavelengths towards said object, said beams on reflection from said object received by the objective lens (101), (c) at least two receivers (141, 142) arranged outside a beam path (109) as defined by the objective lens (101), and adapted to receive said received beams ( $\lambda_1$ ,  $\lambda_2$ ) of structured light. Optical means comprising at least two dichroic surfaces (121a, 122a) are each arranged at a tilt angle ( $\alpha_1$ ,  $\alpha_2$ ) with respect to said axis (OA), said optical axis (OA) passing through said surfaces, at least one of said dichroic surfaces arranged on a plate (121, 122), said at least two dichroic surfaces (121a, 122a) adapted to reflect at least one of said received structured light beams ( $\lambda_1$ ,  $\lambda_2$ ), respectively, towards said receivers (141, 142).